

CLAIM AMENDMENTS

1. (Currently Amended) A voltage controlled oscillating circuit operable to output a variable frequency, comprising a variable capacitance element, the variable frequency varying with a variation in capacitance of the variable capacitance element, wherein the variable capacitance element is provided by a bipolar transistor, having emitter, base, and collector layers, the capacitance of the variable capacitance element ~~is being~~ achieved by combining a capacitance formed by a PN junction between ~~an~~ the emitter layer and ~~a~~ the base layer and a capacitance formed by a PN junction between the base layer and ~~a~~ the collector layer ~~in a~~ of the bipolar transistor, and is controlled by a voltage applied between the emitter layer and the collector layer of the bipolar transistor.

2. (Currently Amended) A voltage controlled oscillating circuit operable to output a variable frequency, comprising a variable capacitance element, the variable frequency varying with a variation in capacitance of the variable capacitance element, wherein the variable capacitance element is provided by a bipolar transistor, having emitter, base, and collector layers, the capacitance of the variable capacitance element ~~is being~~ achieved by a capacitance formed by a PN junction between ~~a~~ the collector layer and ~~a~~ the base layer ~~in~~ of the bipolar transistor, and is controlled by a voltage applied between ~~an~~ the emitter layer and the collector layer of the bipolar transistor.

3. (Currently Amended) The voltage controlled oscillating circuit according to claim 1, wherein ~~a~~ junction area between the emitter layer and the base layer is larger than ~~a~~ junction area between the emitter layer and the collector layer.

4. (Currently Amended) The voltage controlled oscillating circuit according to claim 1, further comprising a bias circuit which applies a voltage₁ for controlling the capacitance, ~~in~~ to the emitter layer.

5. (Currently Amended) The voltage controlled oscillating circuit according to claim 2, further comprising a bias circuit which applies a voltage₁ for controlling the capacitance, ~~in~~ to the emitter layer.